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Sea surface microalgal assemblages from Antarctic Peninsular

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Malaysia Antarctic Scientific Expedition 2016 was held from 13th January to 14th February 2016 in the Antarctic Peninsula. A total of seven sampling stations were conducted during the expedition. The location were along Antarctic Peninsula from King George Island 62° S 58° W down to Darboux Island, Graham Coast 65° S 64° W. In this study we investigate the distribution and composition of sea surface microalgae assemblages and also the photosynthesis activities and capacities (adaptation strategies) of sea surface microalgae in natural environment of this area. The sea water temperature 10.5°C to -1.2°C were recorded. While pH range recorded was from 7.98 to 8.34. Dominant genus such as *Odentella, Proboscia, Eucampia, Chaetoceros, Coscinodiscus* and *Thalassiosira* were present in this study. Highest maximum quantum yield (Fv/Fm) were recorded 0.291 at Darboux Island and the lowest maximum quantum yield (Fv/Fm) at Trinity Island with value of 0.053. Based on One-way ANOVA, environmental parameter (temperature, pH, light intensity and dissolve oxygen) and nutrient parameter (ammonia, orthophosphate, nitrite and nitrate) shows significant differences ($p<0.05$) between the sampling stations. However, Fv/Fm has no significant differences ($p>0.05$) between the sampling stations. General aspects of the diversity and distribution of these microalgae in each habitat were discussed, and the composition and ecology of the most common microalgal assemblages in these environments were described in detail.

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